by being placed in charge of 138 cases of chronic empyema at Fort Sheridan, Illinois, upon his return from France, in May, 1919. He has tested out by experiment the soundness of the principles advocated by this Commission and challenged by some as unsound. He summarizes his work as follows: The extensive recent literature on empyema reveals both a striking tendency toward more or less standardized treatment and a radical departure from methods in use prior to the war. He discusses the cardinal principles of (1) the avoidance of an open pneumothorax during the acute pneumonic stage of the disease; (2) early sterilization and obliteration of the cavity, and (3) the maintenance of the nutrition of the patient. In the normal thorax the mediastinal structures are so mobile that their resistance is negligible from the standpoint of pressure relationships so that the thorax can be considered as one cavity instead of two. Any change of pressure in one pleural cavity will manifest itself to practically the same degree in the other pleural cavity with the result that both lungs will be about equally compressed. The situation in this respect is the same in the dog as in the human, and, therefore, experimental results obtained on the dog can be directly applied to the human. The likelihood of a fatal asphyxia as a result of an open pneumothorax depends upon a number of factors, important ones of which are the size of the opening and the vital capacity of the individual. A mathematical expression has been devised by which it is possible in a given case to approximate the nonfatal opening in the chest wall if the vital capacity is known. One who has an average vital capacity (3700 cubic centimeters) and a normal thorax can withstand an opening in the chest wall of 51 square centimeters (8 square inches), but the individual of exceptional vital capacity (as, for example, 7100 cubic centimeters), can live with an opening of 101 square centimeters (15.6 square inches). A bilateral open pneumothorax is practically no more dangerous to life than a unilateral opening provided that in each case the areas of the openings are the same. These observations have a very important bearing on the question of open drainage of cases of empyema, particularly during the acute pneumonic stage when the vital capacity is low. After adhesions have formed and the mediastinum has become somewhat stabilized, both by adhesions and inflammatory induration, then the pressure relationships may be materially different on the two sides. Collapsing thoracoplastic operations have the disadvantage, even when successful, of apparently permanently reducing the vital capacity.

Chronic Paroxysmal Trigeminal Neuralgia and Its Treatment.—Harris (*British Med. Jour.*, May 22, 1920, 693) says that in the last twelve years he has had 312 cases. Only a comparatively small number get relief from drugs. Practically the only two methods of relief are gasserectomy and alcohol injections. The former operation should never be undertaken until alcohol injection has been thoroughly tried. During the last ten years Harris has injected the Gasserian ganglion 63 times. In 31 the anesthesia has remained total and no recurrence of pain has taken place. In many of the remainder partial ganglion anesthesia has persisted though pressure could be felt, yet the relief from pain appears to be equally good. In many cases, though total ganglion anesthesia is produced at the time of injection, yet the anesthesia of the first and second divisions wears off, perhaps completely, in from ten minutes to an hour, though the third division remains totally anesthetic. In such a case pain is liable to recur after two months or two years, as in a case of ordinary injection of a nerve. With total destruction of the ganglion there is the same liability to keratitis as with the operation of gasserectomy, but if the lids are kept carefully closed by strapping for the first week and the conjunctival sac washed out with boracic lotion twice a day, there will be little or no trouble. Hutchinson's partial gasserectomy avoids the danger of keratitis but is not a certain permanent cure, as Harris has seen three such cases relapse with neuralgia. In almost every case, as soon as anesthesia develops from the injection, the neuralgic pains cease, and they can no longer be started by any chewing movements or rubbing the face. The duration of the cure rarely lasts less than twelve months, if good anesthesia has been obtained, and in the majority the relief of pain lasts from two to three years. Very many of Harris' cases have been free for four or five years, one six and a half years, another seven years, another nine years after nerve injection only. No trophic effects on the skin are ever seen. Keratitis is a risk if the cornea is anesthetic after injection of the ganglion, but this may always be avoided by proper precautions.

THERAPEUTICS

UNDER THE CHARGE OF

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A Collective Investigation of 10,000 Recruits with Doubtful Heart Conditions.—Report IV. Compiled by S. R. Wells (*British Med. Jour.*, May 29, 1920, p. 730). The following is the author's summary: Taking aortic regurgitation and mitral stenosis as the two typical valvular lesions which can be diagnosed with comparative certainty during life, the results of the present statistical inquiry lead us to the following conclusions: (1) The most important etiological factor in the production of organic lesions of the heart valves in men between the ages of eighteen and forty-one is rheumatic fever. (2) Strain can independently produce aortic regurgitation. (3) While strain may be a cause of mitral stenosis, it is a much less important factor than in the production of aortic regurgitation. (4) There is a third agent giving rise to symptoms simulating influenza, which is an efficient cause of mitral stenosis, and can possibly affect the aortic valves as well, but is not nearly so likely to do so. We have been unable to find any statistical evidence that syphilis, scarlet fever, diphtheria, pneumonia, or gonorrhea, are causes of valvular lesions, nor can we find statistical evidence that a history of